

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

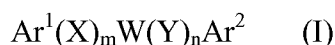
1. (Previously Presented) An agent for detecting rhinoviral infection in humans comprising a compound capable of binding to a rhinovirus (HRV) capsid, the compound comprising:

at least two capsid binding moieties, and

a non-polymeric backbone or core,

wherein the at least two capsid binding moieties are covalently attached to the non-polymeric backbone or core,

and wherein the at least two capsid binding moieties are the same or different and individually selected from formula (I):



where Ar^1 and Ar^2 are optionally substituted, aromatic mono-, bi- or tri-cyclic rings or ring systems, which may be the same or different, said aromatic rings or ring systems having 3 to 15 carbon atoms, and in the case of heteroaromatic rings, containing one or more heteroatoms selected from N, S or O;

X and Y are independently selected from O, S, CO, C(O)O, CONR or NR, where R is hydrogen or C_{1-6} alkyl;

W is selected from the group consisting of optionally substituted straight chain or branched alkylene groups of from 1 to 10 carbon atoms which may have one or more double or triple bonds; optionally substituted alkyleneoxy groups; optionally substituted aryl groups; and optionally substituted aliphatic rings which may be saturated or unsaturated and

which may include one or more heteroatoms selected from O, S and N;
and

m and n are independently 0 or 1;

said compound being linked to a detectable label.

2-3. (Canceled)

4. (Previously Presented) The agent of claim 1 wherein the at least two capsid binding moieties are capable of simultaneously binding within separate hydrophobic pockets on the same or different HRV capsids.

5. (Previously Presented) The agent of claim 1 wherein the compound has a molecular weight of less than 10,000.

6. (Previously Presented) The agent of claim 4 wherein the non-polymeric backbone or core is selected from the group consisting of:

a straight chain, branched or cyclic C₁-C₇₀ alkyl optionally including one or more double or triple bonds and optionally including one or more heteroatoms selected from oxygen, sulfur and nitrogen;

oligomers of amino acids, acrylamide, N-substituted acrylamides, acrylic acid, alkeneoxy moieties, aminoalkanoic acids, and carbohydrates;

small to medium sized dendritic cores; and
cyclodextrins.

7. (Previously Presented) The agent of claim 1 wherein the non-polymeric backbone or core comprises two or more linker groups to which the two or more capsid binding moieties are attached, each linker group being capable of passing through the picornaviral pore and having a length sufficient to allow the attached capsid binding moiety to reach inside and bind within a hydrophobic pocket of the rhinoviral capsid.

8. (Previously Presented) The agent of claim 7 wherein the two or more linker groups are the same or different and independently selected from the group consisting of alkyl, aryl, alkenyl, alkynyl, alkyleneoxy, amino acids, alkylamino, alkylcarbonyl, alkylcarboxy, alkoxy, alkylurea, alkylhydrazide and combinations thereof.

9. (Previously Presented) The agent of claim 7 wherein the non-polymeric backbone or core and/or the two or more of the linker groups comprises a functional group which imposes restrictions on available degrees of freedom.

10. (Previously Presented) The agent of claim 9 wherein the functional group is an alkenyl, aryl or amido group.

11. (Previously Presented) The agent of claim 4 wherein the two or more capsid binding moieties comprise between two and ten capsid binding moieties.

12. (Previously Presented) The agent of claim 11 comprising five capsid binding moieties located on the non-polymeric backbone or core such that they bind within the five hydrophobic pockets located about one of the fivefold icosahedral axes of the rhinoviral capsid.

13. (Previously Presented) The agent of claim 1 wherein the two or more capsid binding moieties are covalently attached to the non-polymeric backbone or core such that the compound is in the form of a dimer with a center of symmetry.

14-15. (Canceled)

16. (Previously Presented) The agent of claim 1 wherein W is selected from the group consisting of $-(CH_2)_m-$ where m is 1 to 9; and $-(CH_2)_p-Z-(CH_2)_q-$ where p and q are independently 0 to 4, and Z is an optionally substituted C_2-C_6 alkylene group containing one or

more double or triple bonds or a five or six membered aromatic or aliphatic ring which may contain one to four heteroatoms selected from O, S and N.

17. (Previously Presented) The agent of claim 1 wherein the divalent spacer group is selected from the group consisting of $-(CH_2)_m-$ where m is 2 to 7; and a group of the formula $-(CH_2)_p-Z-(CH_2)_q-$ where p and q are independently 0 to 3, and Z is a five or six membered aromatic or aliphatic ring containing from 1 to 2 N atoms or a group of the formula $-(CH=CH)_n-$ where n is 1 to 3.

18. (Canceled)

19. (Previously Presented) The agent of claim 4 wherein each of the two or more capsid binding moieties is covalently attached to the non-polymeric backbone or core at a position on the two or more capsid binding moieties located in the region at the end of the two or more capsid binding moieties which lies near the pore of the hydrophobic pocket (heel region) during binding.

20. (Previously Presented) The agent of claim 19 wherein each of the two or more capsid binding moieties contains a functional group at its heel region capable of forming a covalent bond with the non-polymeric backbone or core, wherein the functional group is located in the region at the end of the capsid binding moiety which lies near the pore of the hydrophobic pocket (heel region) during binding.

21. (Previously Presented) The agent of claim 20 wherein the functional group is selected from the group consisting of a hydroxy, amine, azide, aldehyde, carboxylic acid, amide, ester, hydrazide, oxime ether, imidazolidine, hydroxamate, thioester, mercapto, halide, ketone, hydrazine, isocyanate and isothiocyanate.

22. (Previously Presented) The agent of claim 20 wherein the covalent bonds between the at least two capsid binding moieties and the non-polymeric backbone or core are formed between the functional group and a complementary functional group on a linker group of the non-polymeric backbone or core.

23-32. (Canceled)

33. (Previously Presented) A method for the diagnosis of human rhinoviral infections, comprising:

preparing a biological sample suspected of containing human rhinoviral virus,
incubating the sample with an agent of any one of claims 1, 4-13, 16, 17 and 19-22, the incubation occurring for a time and under conditions sufficient to form a human rhinovirus-agent complex, and
detecting the presence or absence of such human rhinovirus-agent complex.